PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER**	see Form PCT/ISA/220
BIF116053/DM/LJH	**ACTION**	as well as, where applicable, Item 5 below.

International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/IB2004/002623	21/07/2004	21/07/2003

Applicant

CANON KABUSHIKI KAISHA

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of ____4____ sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

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1. **Basis of the report**

   a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   [ ] The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. [ ] With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. [ ] **Certain claims were found unsearchable** (See Box II).

3. [ ] **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

   a. the figure of the drawings to be published with the abstract is Figure No. ____1____

   [X] as suggested by the applicant.

   [ ] as selected by this Authority, because the applicant failed to suggest a figure.

   [ ] as selected by this Authority, because this figure better characterizes the invention.

   b. [ ] none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7   H03M13/15

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
IPC 7   H03M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LIN S ET AL: "ERROR CONTROL CODING" 1983, ERROR CONTROL CODING. FUNDAMENTALS AND APPLICATIONS, ENGLEWOOD CLIFFS, PRENTICE HALL, US, PAGE(S) 85-124 , XP002056639 page 95 page 116	13,15-18
Y	─────	14
Y	GUI-LIANG FENG ET AL: "Reflections on the 'decoding of algebraic-geometric codes up to the designed minimum distance'" 15 March 1995 (1995-03-15), XP002287274 Retrieved from the Internet: URL:http://www.cs.mcgill.ca/{crepeau/PS/Feng-Rao.ps> 'retrieved on 2004-10-14! page 1 – page 3 ───── -/--	14

[X] Further documents are listed in the continuation of box C.	[ ] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 October 2004	02/11/2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Offer, E

Form PCT/ISA/210 (second sheet) (January 2004)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PELLIKAAN R ET AL: "Which linear codes are algebraic-geometric?" IEEE TRANSACTIONS ON INFORMATION THEORY, vol. 37, no. 3, 1 May 1991 (1991-05-01), pages 583-602, XP000204363 ISSN: 0018-9448 page 594, left-hand column, paragraph 5 - page 601, right-hand column, paragraph 1	14
A		1-13, 15-18
A	HEEGARD C ET AL: "Systematic encoding via Gröbner bases for a class of algebraic-geometric codes" IEEE TRANSACTIONS ON INFORMATION THEORY, IEEE INC. NEW YORK, US, vol. 41, no. 6, November 1995 (1995-11), pages 1752-1761, XP002263629 ISSN: 0018-9448 the whole document	1-18
A	MATSUMOTO R ET AL: "Fast encoding of algebraic geometry codes" IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS, COMMUNICATIONS AND COMPUTER SCIENCES, INSTITUTE OF ELECTRONICS INFORMATION AND COMM. ENG. TOKYO, JP, vol. E84A, no. 10, October 2001 (2001-10), pages 2514-2517, XP001107782 ISSN: 0916-8508 the whole document	1-18
A	BLAKE I. ET AL: "Algebraic-geometry codes" IEEE TRANSACTIONS ON INFORMATION THEORY, IEEE INC. NEW YORK, US, vol. 44, no. 6, 6 October 1998 (1998-10-06), pages 2596-2618, XP002251940 ISSN: 0018-9448 the whole document	1-18
A	FENG G-L ET AL: "Improved geometric Goppa codes.PART I: Basic theory" IEEE TRANSACTIONS ON INFORMATION THEORY, IEEE INC. NEW YORK, US, vol. 41, no. 6, pt1, November 1995 (1995-11), pages 1678-1693, XP002225243 ISSN: 0018-9448 the whole document	1-18

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	LINT VAN J H: "Algebraic geometric codes" CODING THEORY AND DESIGN THEORY, vol. 21, 1990, pages 137-162, XP008011885 IMA VOLUMNES MATHEMATICAL APPLICATIONS, SPRINGER VERLAG BERLIN cited in the application the whole document -----	1-18

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